Date: Sat, 10 Sep 94 04:30:33 PDT
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #250
To: Ham-Space

Ham-Space Digest Sat, 10 Sep 94 Volume 94 : Issue 250

Today's Topics:

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

Date: Fri, 9 Sep 1994 08:10:00 MDT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!
nntp.cs.ubc.ca!alberta!ve6mgs!usenet@network.ucsd.edu
Subject: orbs$.252.2of2.amsat
To: ham-space@ucsd.edu

SB KEPS @ AMSAT $ORBS-252.W
Orbital Elements 252.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
FROM WA5QGD FORT WORTH,TX September 9, 1994
BID: $ORBS-252.W
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time: 94250.77061508
Element set: 945
Inclination: 99.0435 deg

RA of node: 302.1944 deg
Eccentricity: 0.0015171
Arg of perigee: 350.3917 deg
Mean anomaly: 9.6960 deg
Mean motion: 14.13639907 rev/day
Decay rate: 5.6e-07 rev/day^2
Epoch rev: 50192
Checksum: 308

Satellite: NOAA-10
Catalog number: 16969
Epoch time: 94250.73664265
Element set: 842
Inclination: 98.5110 deg
RA of node: 257.2257 deg
Eccentricity: 0.0014132
Arg of perigee: 87.2811 deg
Mean anomaly: 272.9991 deg
Mean motion: 14.24903883 rev/day
Decay rate: 1.7e-07 rev/day^2
Epoch rev: 41425
Checksum: 313

Satellite: MET-2/17
Catalog number: 18820
Epoch time: 94250.39554426
Element set: 391
Inclination: 82.5412 deg
RA of node: 203.1859 deg
Eccentricity: 0.0015983
Arg of perigee: 315.5211 deg
Mean anomaly: 44.4664 deg
Mean motion: 13.84720625 rev/day
Decay rate: 3.6e-07 rev/day^2
Epoch rev: 33373
Checksum: 299

Satellite: MET-3/2
Catalog number: 19336
Epoch time: 94246.49018649
Element set: 320
Inclination: 82.5381 deg
RA of node: 268.2735 deg
Eccentricity: 0.0018539
Arg of perigee: 67.2957 deg
Mean anomaly: 293.0126 deg
Mean motion: 13.16968553 rev/day
Decay rate: 5.1e-07 rev/day^2

```
Epoch rev:           29356
Checksum: 332

Satellite: NOAA-11
Catalog number: 19531
Epoch time:      94250.70637069
Element set:     762
Inclination: 99.1810 deg
RA of node:       241.6693 deg
Eccentricity: 0.0011090
Arg of perigee:   264.3496 deg
Mean anomaly:      95.6404 deg
Mean motion:   14.13014274 rev/day
Decay rate:        6.0e-07 rev/day^2
Epoch rev:           30679
Checksum: 295

Satellite: MET-2/18
Catalog number: 19851
Epoch time:      94246.56910060
Element set:     321
Inclination: 82.5172 deg
RA of node:        81.4335 deg
Eccentricity: 0.0015197
Arg of perigee:    11.7751 deg
Mean anomaly:     348.3746 deg
Mean motion:   13.84371453 rev/day
Decay rate:        2.0e-07 rev/day^2
Epoch rev:           27853
Checksum: 299

Satellite: MET-3/3
Catalog number: 20305
Epoch time:      94247.84879149
Element set:     137
Inclination: 82.5512 deg
RA of node:       214.8917 deg
Eccentricity: 0.0007981
Arg of perigee:    92.6591 deg
Mean anomaly:     267.5439 deg
Mean motion:   13.04426670 rev/day
Decay rate:        4.4e-07 rev/day^2
Epoch rev:           23328
Checksum: 321

Satellite: MET-2/19
Catalog number: 20670
Epoch time:      94246.22753404
```

Element set: 824
Inclination: 82.5492 deg
RA of node: 146.4951 deg
Eccentricity: 0.0014715
Arg of perigee: 292.4370 deg
Mean anomaly: 67.5233 deg
Mean motion: 13.84182449 rev/day
Decay rate: -8.4e-07 rev/day^2
Epoch rev: 21141
Checksum: 301

Satellite: FY-1/2
Catalog number: 20788
Epoch time: 94251.22505974
Element set: 71
Inclination: 98.8280 deg
RA of node: 268.7042 deg
Eccentricity: 0.0016171
Arg of perigee: 138.0415 deg
Mean anomaly: 222.1909 deg
Mean motion: 14.01315639 rev/day
Decay rate: -2.7e-07 rev/day^2
Epoch rev: 20533
Checksum: 285

Satellite: MET-2/20
Catalog number: 20826
Epoch time: 94249.01489895
Element set: 835
Inclination: 82.5210 deg
RA of node: 81.6755 deg
Eccentricity: 0.0012936
Arg of perigee: 175.7635 deg
Mean anomaly: 184.3668 deg
Mean motion: 13.83588735 rev/day
Decay rate: 5.3e-07 rev/day^2
Epoch rev: 19893
Checksum: 351

Satellite: MET-3/4
Catalog number: 21232
Epoch time: 94246.60325885
Element set: 731
Inclination: 82.5424 deg
RA of node: 114.1705 deg
Eccentricity: 0.0014309
Arg of perigee: 354.0476 deg
Mean anomaly: 6.0480 deg

```
Mean motion:   13.16464228 rev/day
Decay rate:        5.0e-07 rev/day^2
Epoch rev:           16167
Checksum: 272

Satellite: NOAA-12
Catalog number: 21263
Epoch time:      94250.70514379
Element set:     171
Inclination: 98.6126 deg
RA of node:       276.6469 deg
Eccentricity: 0.0013361
Arg of perigee:     1.7209 deg
Mean anomaly:     358.4004 deg
Mean motion:   14.22444842 rev/day
Decay rate:        8.4e-07 rev/day^2
Epoch rev:           17223
Checksum: 284

Satellite: MET-3/5
Catalog number: 21655
Epoch time:      94250.95119570
Element set:     739
Inclination: 82.5488 deg
RA of node:        58.2862 deg
Eccentricity: 0.0013781
Arg of perigee:   356.1519 deg
Mean anomaly:       3.9492 deg
Mean motion:   13.16834104 rev/day
Decay rate:        5.1e-07 rev/day^2
Epoch rev:           14735
Checksum: 314

Satellite: MET-2/21
Catalog number: 22782
Epoch time:      94243.24645844
Element set:     332
Inclination: 82.5514 deg
RA of node:       146.9692 deg
Eccentricity: 0.0023665
Arg of perigee:    18.4976 deg
Mean anomaly:     341.7038 deg
Mean motion:   13.83014037 rev/day
Decay rate:        8.9e-07 rev/day^2
Epoch rev:            5046
Checksum: 311

/EX
```

SB KEPS @ AMSAT $ORBS-252.M
Orbital Elements 252.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM WA5QGD FORT WORTH,TX September 9, 1994
BID: $ORBS-252.M
TO ALL RADIO AMATEURS BT

Satellite: POSAT
Catalog number: 22829
Epoch time: 94243.20371906
Element set: 313
Inclination: 98.6454 deg
RA of node: 318.3232 deg
Eccentricity: 0.0010119
Arg of perigee: 342.4454 deg
Mean anomaly: 17.6372 deg
Mean motion: 14.28038204 rev/day
Decay rate: 5.0e-08 rev/day^2
Epoch rev: 4840
Checksum: 266

Satellite: MIR
Catalog number: 16609
Epoch time: 94251.20537460
Element set: 751
Inclination: 51.6466 deg
RA of node: 131.0215 deg
Eccentricity: 0.0001551
Arg of perigee: 29.3923 deg
Mean anomaly: 330.7156 deg
Mean motion: 15.56960259 rev/day
Decay rate: 2.575e-05 rev/day^2
Epoch rev: 48895
Checksum: 298

Satellite: HUBBLE
Catalog number: 20580
Epoch time: 94251.17564075
Element set: 533
Inclination: 28.4700 deg
RA of node: 62.8744 deg
Eccentricity: 0.0006129
Arg of perigee: 234.9428 deg
Mean anomaly: 125.0586 deg
Mean motion: 14.90666428 rev/day
Decay rate: 4.55e-06 rev/day^2
Epoch rev: 4178

Checksum: 300

Satellite: GRO
Catalog number: 21225
Epoch time: 94250.71184672
Element set: 137
Inclination: 28.4634 deg
RA of node: 19.1121 deg
Eccentricity: 0.0003345
Arg of perigee: 73.0629 deg
Mean anomaly: 287.0534 deg
Mean motion: 15.41218139 rev/day
Decay rate: 2.466e-05 rev/day^2
Epoch rev: 6968
Checksum: 282

Satellite: UARS
Catalog number: 21701
Epoch time: 94245.53359212
Element set: 584
Inclination: 56.9840 deg
RA of node: 209.1014 deg
Eccentricity: 0.0004516
Arg of perigee: 108.4708 deg
Mean anomaly: 251.6814 deg
Mean motion: 14.96457348 rev/day
Decay rate: -2.164e-05 rev/day^2
Epoch rev: 16251
Checksum: 290

/EX

Date: Fri, 9 Sep 1994 08:06:00 MDT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!
nntp.cs.ubc.ca!alberta!ve6mgs!usenet@network.ucsd.edu
Subject: orbs$252.1of2.amsat
To: ham-space@ucsd.edu

SB KEPS @ AMSAT $ORBS-252.O
Orbital Elements 252.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH,TX September 9, 1994
BID: $ORBS-252.O
TO ALL RADIO AMATEURS BT

```
Satellite: AO-10
Catalog number: 14129
Epoch time:      94215.22805310
Element set:     295
Inclination: 27.0009 deg
RA of node:       314.8290 deg
Eccentricity: 0.6026240
Arg of perigee:   199.5326 deg
Mean anomaly:     120.6764 deg
Mean motion:    2.05881876 rev/day
Decay rate:      -3.02e-06 rev/day^2
Epoch rev:            8375
Checksum: 286

Satellite: UO-11
Catalog number: 14781
Epoch time:      94246.07218413
Element set:     725
Inclination: 97.7857 deg
RA of node:       257.1497 deg
Eccentricity: 0.0012609
Arg of perigee:    25.2874 deg
Mean anomaly:     334.8945 deg
Mean motion:   14.69240533 rev/day
Decay rate:        5.7e-07 rev/day^2
Epoch rev:           56174
Checksum: 331

Satellite: RS-10/11
Catalog number: 18129
Epoch time:      94249.07204211
Element set:     954
Inclination: 82.9209 deg
RA of node:       269.0556 deg
Eccentricity: 0.0012014
Arg of perigee:   152.4193 deg
Mean anomaly:     207.7602 deg
Mean motion:   13.72340827 rev/day
Decay rate:        2.9e-07 rev/day^2
Epoch rev:           36100
Checksum: 276

Satellite: AO-13
Catalog number: 19216
Epoch time:      94250.73996645
Element set:     961
Inclination: 57.7429 deg
RA of node:       232.3061 deg
```

```
Eccentricity: 0.7230985
Arg of perigee:   349.7633 deg
Mean anomaly:       0.9499 deg
Mean motion:    2.09718556 rev/day
Decay rate:       2.71e-06 rev/day^2
Epoch rev:            4774
Checksum: 344

Satellite: FO-20
Catalog number: 20480
Epoch time:      94247.42862192
Element set:     722
Inclination: 99.0488 deg
RA of node:        24.3224 deg
Eccentricity: 0.0541357
Arg of perigee:   159.9373 deg
Mean anomaly:     202.3927 deg
Mean motion:   12.83228220 rev/day
Decay rate:        4.2e-07 rev/day^2
Epoch rev:           21429
Checksum: 294

Satellite: AO-21
Catalog number: 21087
Epoch time:      94251.01676119
Element set:     510
Inclination: 82.9364 deg
RA of node:        81.4154 deg
Eccentricity: 0.0033935
Arg of perigee:   211.9250 deg
Mean anomaly:     147.9850 deg
Mean motion:   13.74544212 rev/day
Decay rate:        9.4e-07 rev/day^2
Epoch rev:           18096
Checksum: 292

Satellite: RS-12/13
Catalog number: 21089
Epoch time:      94246.59078278
Element set:     725
Inclination: 82.9245 deg
RA of node:       313.3082 deg
Eccentricity: 0.0027684
Arg of perigee:   249.8946 deg
Mean anomaly:     109.9234 deg
Mean motion:   13.74045561 rev/day
Decay rate:        2.9e-07 rev/day^2
Epoch rev:           17941
```

Checksum: 339

Satellite: ARSENE
Catalog number: 22654
Epoch time: 94243.05287604
Element set: 275
Inclination: 2.0332 deg
RA of node: 96.0279 deg
Eccentricity: 0.2914017
Arg of perigee: 190.0489 deg
Mean anomaly: 163.3275 deg
Mean motion: 1.42202991 rev/day
Decay rate: -1.07e-06 rev/day^2
Epoch rev: 226
Checksum: 270

/EX
SB KEPS @ AMSAT $ORBS-252.D
Orbital Elements 252.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH,TX September 9, 1994
BID: $ORBS-252.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time: 94246.24979174
Element set: 26
Inclination: 98.5880 deg
RA of node: 329.9585 deg
Eccentricity: 0.0010966
Arg of perigee: 326.7938 deg
Mean anomaly: 33.2550 deg
Mean motion: 14.29853612 rev/day
Decay rate: 1.0e-08 rev/day^2
Epoch rev: 24074
Checksum: 325

Satellite: AO-16
Catalog number: 20439
Epoch time: 94243.22354761
Element set: 823
Inclination: 98.5968 deg
RA of node: 328.2876 deg
Eccentricity: 0.0011378
Arg of perigee: 336.3042 deg
Mean anomaly: 23.7623 deg

```
Mean motion:   14.29907282 rev/day
Decay rate:        4.0e-08 rev/day^2
Epoch rev:           24032
Checksum: 306

Satellite: DO-17
Catalog number: 20440
Epoch time:      94246.24913465
Element set:     825
Inclination: 98.5966 deg
RA of node:       331.6231 deg
Eccentricity: 0.0011315
Arg of perigee:   326.6136 deg
Mean anomaly:      33.4328 deg
Mean motion:   14.30047248 rev/day
Decay rate:       -3.0e-08 rev/day^2
Epoch rev:           24077
Checksum: 284

Satellite: WO-18
Catalog number: 20441
Epoch time:      94243.21721374
Element set:     826
Inclination: 98.5975 deg
RA of node:       328.6270 deg
Eccentricity: 0.0012285
Arg of perigee:   335.7331 deg
Mean anomaly:      24.3277 deg
Mean motion:   14.30021068 rev/day
Decay rate:        6.0e-08 rev/day^2
Epoch rev:           24034
Checksum: 280

Satellite: LO-19
Catalog number: 20442
Epoch time:      94246.75849338
Element set:     823
Inclination: 98.5978 deg
RA of node:       332.4001 deg
Eccentricity: 0.0012219
Arg of perigee:   324.7459 deg
Mean anomaly:      35.2913 deg
Mean motion:   14.30118615 rev/day
Decay rate:        1.3e-07 rev/day^2
Epoch rev:           24086
Checksum: 303

Satellite: UO-22
```

```
Catalog number: 21575
Epoch time:      94246.12512292
Element set:     528
Inclination: 98.4302 deg
RA of node:       319.0283 deg
Eccentricity: 0.0008689
Arg of perigee:    59.0874 deg
Mean anomaly:     301.1166 deg
Mean motion:   14.36929252 rev/day
Decay rate:       -3.0e-08 rev/day^2
Epoch rev:           16427
Checksum: 301

Satellite: KO-23
Catalog number: 22077
Epoch time:      94243.11394838
Element set:     422
Inclination: 66.0839 deg
RA of node:       123.1079 deg
Eccentricity: 0.0015430
Arg of perigee:   270.1307 deg
Mean anomaly:      89.7937 deg
Mean motion:   12.86286549 rev/day
Decay rate:       -3.7e-07 rev/day^2
Epoch rev:            9642
Checksum: 315

Satellite: AO-27
Catalog number: 22825
Epoch time:      94246.24191330
Element set:     321
Inclination: 98.6482 deg
RA of node:       321.2471 deg
Eccentricity: 0.0008932
Arg of perigee:   346.8547 deg
Mean anomaly:      13.2395 deg
Mean motion:   14.27633083 rev/day
Decay rate:        1.4e-07 rev/day^2
Epoch rev:           4882
Checksum: 296

Satellite: IO-26
Catalog number: 22826
Epoch time:      94243.20374381
Element set:     320
Inclination: 98.6495 deg
RA of node:       318.2912 deg
Eccentricity: 0.0009468
```

Arg of perigee: 356.6267 deg
Mean anomaly: 3.4849 deg
Mean motion: 14.27737479 rev/day
Decay rate: 3.0e-08 rev/day^2
Epoch rev: 4839
Checksum: 330

Satellite: KO-25
Catalog number: 22830
Epoch time: 94246.70054461
Element set: 327
Inclination: 98.5472 deg
RA of node: 318.1598 deg
Eccentricity: 0.0011121
Arg of perigee: 310.7839 deg
Mean anomaly: 49.2365 deg
Mean motion: 14.28061576 rev/day
Decay rate: -2.9e-07 rev/day^2
Epoch rev: 4890
Checksum: 306

Satellite: 22828
Catalog number: 22828
Epoch time: 94246.70003989
Element set: 299
Inclination: 98.6425 deg
RA of node: 321.7648 deg
Eccentricity: 0.0010289
Arg of perigee: 331.7229 deg
Mean anomaly: 28.3378 deg
Mean motion: 14.28064524 rev/day
Decay rate: 4.0e-08 rev/day^2
Epoch rev: 1698
Checksum: 343

/EX

Date: Fri, 9 Sep 1994 08:13:00 MDT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!
nntp.cs.ubc.ca!alberta!ve6mgs!usenet@network.ucsd.edu
Subject: orbs$252.2l.amsat
To: ham-space@ucsd.edu

SB KEPS @ AMSAT $ORBS-252.N
2Line Orbital Elements 252.AMSAT

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM WA5QGD FORT WORTH,TX September 9, 1994
BID: $ORBS-252.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:
1 AAAAAU 00 0 0 BBBBB.BBBBBBBB .CCCCCCCC 00000-0 00000-0 0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

AO-10
1 14129U 83058B   94215.22805310 -.00000302 00000-0 10000-3 0 2952
2 14129 27.0009 314.8290 6026240 199.5326 120.6764 2.05881876 83753
UO-11
1 14781U 84021B   94246.07218413 .00000057 00000-0 17474-4 0 7253
2 14781 97.7857 257.1497 0012609 25.2874 334.8945 14.69240533561743
RS-10/11
1 18129U 87054A   94249.07204211 .00000029 00000-0 14891-4 0 9549
2 18129 82.9209 269.0556 0012014 152.4193 207.7602 13.72340827361000
AO-13
1 19216U 88051B   94250.73996645 .00000271 00000-0 10000-4 0 9614
2 19216 57.7429 232.3061 7230985 349.7633   0.9499 2.09718556 47747
FO-20
1 20480U 90013C   94247.42862192 .00000042 00000-0 16291-3 0 7229
2 20480 99.0488 24.3224 0541357 159.9373 202.3927 12.83228220214296
AO-21
1 21087U 91006A   94251.01676119 .00000094 00000-0 82657-4 0 5100
2 21087 82.9364 81.4154 0033935 211.9250 147.9850 13.74544212180969
RS-12/13
1 21089U 91007A   94246.59078278 .00000029 00000-0 15038-4 0 7257
2 21089 82.9245 313.3082 0027684 249.8946 109.9234 13.74045561179417
ARSENE
1 22654U 93031B   94243.05287604 -.00000107 00000-0 00000 0 0 2754
2 22654   2.0332 96.0279 2914017 190.0489 163.3275 1.42202991 2266
UO-14
1 20437U 90005B   94246.24979174 .00000001 00000-0 17332-4 0   260
2 20437 98.5880 329.9585 0010966 326.7938 33.2550 14.29853612240743
AO-16
1 20439U 90005D   94243.22354761 .00000004 00000-0 18510-4 0 8233
2 20439 98.5968 328.2876 0011378 336.3042 23.7623 14.29907282240320
DO-17
1 20440U 90005E   94246.24913465 -.00000003 00000-0 15899-4 0 8251
2 20440 98.5966 331.6231 0011315 326.6136 33.4328 14.30047248240778
WO-18
1 20441U 90005F   94243.21721374 .00000006 00000-0 19210-4 0 8266
2 20441 98.5975 328.6270 0012285 335.7331 24.3277 14.30021068240340

```
LO-19
1 20442U 90005G   94246.75849338  .00000013  00000-0  22094-4 0  8239
2 20442  98.5978 332.4001 0012219 324.7459  35.2913 14.30118615240865
UO-22
1 21575U 91050B   94246.12512292 -.00000003  00000-0  13583-4 0  5280
2 21575  98.4302 319.0283 0008689  59.0874 301.1166 14.36929252164279
KO-23
1 22077U 92052B   94243.11394838 -.00000037  00000-0  10000-3 0  4221
2 22077  66.0839 123.1079 0015430 270.1307  89.7937 12.86286549 96423
AO-27
1 22825U 93061C   94246.24191330  .00000014  00000-0  23661-4 0  3212
2 22825  98.6482 321.2471 0008932 346.8547  13.2395 14.27633083 48829
IO-26
1 22826U 93061D   94243.20374381  .00000003  00000-0  19182-4 0  3205
2 22826  98.6495 318.2912 0009468 356.6267   3.4849 14.27737479 48394
KO-25
1 22830U 93061H   94246.70054461 -.00000029  00000-0  55638-5 0  3275
2 22830  98.5472 318.1598 0011121 310.7839  49.2365 14.28061576 48904
22828
1 22828U 93061F   94246.70003989  .00000004  00000-0  19255-4 0  2995
2 22828  98.6425 321.7648 0010289 331.7229  28.3378 14.28064524 16987
NOAA-9
1 15427U 84123A   94250.77061508  .00000056  00000-0  53730-4 0  9455
2 15427  99.0435 302.1944 0015171 350.3917   9.6960 14.13639907501927
NOAA-10
1 16969U 86073A   94250.73664265  .00000017  00000-0  25499-4 0  8422
2 16969  98.5110 257.2257 0014132  87.2811 272.9991 14.24903883414252
MET-2/17
1 18820U 88005A   94250.39554426  .00000036  00000-0  18711-4 0  3915
2 18820  82.5412 203.1859 0015983 315.5211  44.4664 13.84720625333730
MET-3/2
1 19336U 88064A   94246.49018649  .00000051  00000-0  10000-3 0  3202
2 19336  82.5381 268.2735 0018539  67.2957 293.0126 13.16968553293561
NOAA-11
1 19531U 88089A   94250.70637069  .00000060  00000-0  57505-4 0  7620
2 19531  99.1810 241.6693 0011090 264.3496  95.6404 14.13014274306795
MET-2/18
1 19851U 89018A   94246.56910060  .00000020  00000-0  45419-5 0  3211
2 19851  82.5172  81.4335 0015197  11.7751 348.3746 13.84371453278539
MET-3/3
1 20305U 89086A   94247.84879149  .00000044  00000-0  10000-3 0  1373
2 20305  82.5512 214.8917 0007981  92.6591 267.5439 13.04426670233281
MET-2/19
1 20670U 90057A   94246.22753404 -.00000084  00000-0 -88752-4 0  8243
2 20670  82.5492 146.4951 0014715 292.4370  67.5233 13.84182449211411
FY-1/2
1 20788U 90081A   94251.22505974 -.00000027  00000-0  10000-4 0   714
2 20788  98.8280 268.7042 0016171 138.0415 222.1909 14.01315639205330
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MET-2/20
1 20826U 90086A   94249.01489895  .00000053  00000-0  34844-4 0  8357
2 20826  82.5210  81.6755 0012936 175.7635 184.3668 13.83588735198932
MET-3/4
1 21232U 91030A   94246.60325885  .00000050  00000-0  10000-3 0  7318
2 21232  82.5424 114.1705 0014309 354.0476   6.0480 13.16464228161678
NOAA-12
1 21263U 91032A   94250.70514379  .00000084  00000-0  57099-4 0  1713
2 21263  98.6126 276.6469 0013361   1.7209 358.4004 14.22444842172235
MET-3/5
1 21655U 91056A   94250.95119570  .00000051  00000-0  10000-3 0  7399
2 21655  82.5488  58.2862 0013781 356.1519   3.9492 13.16834104147355
MET-2/21
1 22782U 93055A   94243.24645844  .00000089  00000-0  67543-4 0  3329
2 22782  82.5514 146.9692 0023665  18.4976 341.7038 13.83014037 50463
POSAT
1 22829U 93061G   94243.20371906  .00000005  00000-0  19698-4 0  3134
2 22829  98.6454 318.3232 0010119 342.4454  17.6372 14.28038204 48405
MIR
1 16609U 86017A   94251.20537460  .00002575  00000-0  41773-4 0  7513
2 16609  51.6466 131.0215 0001551  29.3923 330.7156 15.56960259488952
HUBBLE
1 20580U 90037B   94251.17564075  .00000455  00000-0  30100-4 0  5336
2 20580  28.4700  62.8744 0006129 234.9428 125.0586 14.90666428 41782
GRO
1 21225U 91027B   94250.71184672  .00002466  00000-0  51524-4 0  1370
2 21225  28.4634  19.1121 0003345  73.0629 287.0534 15.41218139 69681
UARS
1 21701U 91063B   94245.53359212 -.00002164  00000-0 -16814-3 0  5842
2 21701  56.9840 209.1014 0004516 108.4708 251.6814 14.96457348162519
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